

Maria Gehne

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Education

Ph.D. Mathematics and Atmosphere Ocean Science, New York University
Received May 15, 2012.

Dissertation topic: Simple Stochastic Models Based on Analyses of Tropical Phenomena in Observational Data.

M.A. Mathematics (minor in Meteorology), Freie Universität Berlin
Received August 21, 2007

Thesis: Mathematical Structure of the LPJ Dynamic Global Vegetation Model

Employment

Cooperative Institute for Research in Environmental Sciences

Research Associate, December 2013 - current

Multiscale interactions of convection associated with the MJO

Data assimilation for the NCEP Global Ensemble Forecast System

National Center for Atmospheric Research

Postdoctoral Fellow, Kevin Trenberth, July 2012 - November 2013

Global energy and water cycles

World Food Programme

Internship, Joanna Syroka, April - September 2010

Data analysis for Africa Drought Insurance project

Fields of Research Interest

Weather and Climate Variability, Convectively Coupled Equatorial Waves, Stochastic Models, Scale Interactions, Predictability.

Publications

Maria Gehne, Richard Kleeman and Kevin E. Trenberth (2014): Irregularity and decadal variation in ENSO: A simplified model based on Principal Oscillation Patterns. *Climate Dynamics*
DOI: 10.1007/s00382-014-2108-6

Juliana Dias, Pedro L. Silva Dias, George N. Kiladis, Maria Gehne (2013): Modulation of shallow water equatorial waves due to a varying equivalent height background. *Journal of the Atmospheric Sciences*, Volume 70, pp. 2726-2750. DOI: <http://dx.doi.org/10.1175/JAS-D-13-04.1>

Maria Gehne and Richard Kleeman, (2012): Spectral analysis of tropical atmospheric dynamical variables using a linear shallow water modal decomposition. *Journal of the Atmospheric Sciences*, Volume 69, Issue 7, pp. 2300-2316. DOI: <http://dx.doi.org/10.1175/JAS-D-10-05008.1>

Graduate Coursework

Geophysical Fluid Dynamics, broad range of classes on applied PDE's and Numerical Analysis in Climate and Atmospheric Dynamics, Stochastic Calculus, Dynamical Systems, Numerical Methods, Mathematical Models in Climate Research

Teaching

New York University

Calculus I, Teaching Assistant, Fall 2011.

Calculus I, Teaching Assistant, Spring 2009.

Transformations and Geometries, Teaching Assistant, Fall 2008.

Quantitative Reasoning, Teaching Assistant, Spring 2008.

Conference and Seminar Presentations

19th Conference on Atmospheric and Oceanic Fluid Dynamics, Newport, RI, June 2013.

30th Conference on Hurricanes and Tropical Meteorology, Ponte Vedra Beach, FL, 15-20 April 2012

SEAS Colloquium in Climate Science, Columbia University, New York, March 1, 2012.

Physical Mathematics Seminar, MIT, Boston, February 28, 2012.

18th Conference on Atmospheric and Oceanic Fluid Dynamics, Spokane, WA, June 2011.

Princeton University, Department of Atmospheric and Oceanic Sciences, May 27, 2011.

Honors, Awards, & Fellowships

MacCracken Fellowship, New York University, 2007 to 2012.

Grant to attend the summer school on Godunov Methods in Computational Engineering and Technology, Selwyn College, Cambridge University, UK, 2006.

Miscellaneous

Languages: Fluent in German and English.

Activities: Piano accompanist for chamber music ensembles and vocalists, reading, climbing, hiking and running.